

**SPILL RESPONSE SAMPLING PLAN  
MC 252**

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## ATTACHMENTS

Attachment 1 – Material Safety Data Sheet for Crude Oil

Attachment 2 – Rapid Assessment Team (RAT) sample collection procedure

Attachment 3- Sampling/Monitoring process for spill response environmental data

Attachment 4 – Analytical Request Form (ARF)

Attachment 5 – Standard default Chain of Custody (COC) form

Attachment 6 –Sharepointe site and EQuis data management system

## **INTRODUCTION**

This Spill Response Sampling Strategy Plan (the plan) was prepared for the MC 252 event and covers Houma Unified Command. The plan should be utilized to coordinate response sampling activities and provide a framework for them. Sampling activities includes characterizing areas impacted or potentially impacted by release of crude oil to the environment, as well as other response-related sampling and monitoring. Each sampling program should develop its own field sampling plan.

## **HEALTH AND SAFETY**

All tasks described in the work plan will be performed in accordance with BP health and safety policies and procedures, and in accordance with the Health and Safety Plan (HASP) prepared by the Health and Safety Unit and approved by the Unified Command.

## **FIELD RECORDING SAMPLING LOCATIONS**

Field crews should be equipped with hand held Global Positioning System (GPS) units to record latitude, longitude (using WGS 84' datum controls) and elevation of sampling locations and ideally recorded in decimal degrees. This is in addition to temporary marking requirements listed in each of the sections below. This information will be included in the Chain of Custody forms.

## **OBTAINING A SOURCE PRODUCT SAMPLE**

Product sample will be collected as it is practical to do so and does not interfere with recovery operations or does not jeopardize the safety of field personnel. Source samples will be collected from two locations:

1. Source samples from the point of discharge from the well riser have been obtained by ROV. Due to the challenges of remote sampling at extreme depth, the collection effort has resulted in only small amounts of oil collected.
2. Surface source samples are more readily obtainable from surface vessels at the scene. It should be noted that, however an unknown amount of weathering may have affected these samples and these samples may have also come in contact with dispersant.

The product sample will be shipped to Louisiana State University or to TDI-Brooks (B&B labs). Additional labs may be used after Chemistry Task Manager review if there are capacity issues at LSU or TDI-Brooks (B&B labs). Specific sampling plans and SOPs will be used for these sampling activities. A Chain of Custody form will be completed for each sampling event.

## **WASTE SAMPLING AND CHARACTERIZATION**

A specific sampling plan, analysis plan and SOPs (where applicable) for waste characterization will be developed for the response. Waste management will be performed in accordance to the Houma IC Waste Plan.

## **SAMPLING OF CONTAMINATED MEDIA**

Samples will be collected from oil contaminated media such as soil/sand, and water. Individual sampling plans and appropriate SOPs will be used for these sampling programs. Any resulting waste will be handled according to the Waste Disposal Plan for Houma IC.

Sediment sampling in unsoiled areas may also be conducted. Any such sampling will follow SCAT guidelines for shoreline access and other SCAT procedures.

## **CHEMICAL ANALYSES**

All or a combination of the following chemical analyses may be performed on the samples that are collected:

- Volatile Organic Compounds
- Semi-volatile Organic Compounds
- Polycyclic Aromatic Hydrocarbons
- N-Alkanes and Isoprenoids
- Steranes and Triterpanes
- Total Petroleum Hydrocarbons (e.g. GRO and DRO)
- Fingerprinting and Biomarkers
- Viscosity
- Percent Water
- Specific Gravity

Water and sediment samples will be submitted to an accredited laboratory on the BP LaMP program or the BP Gulf of Mexico Lab Program.

## **SPECIFIC SAMPLING PROGRAMS**

As part of the response, several ongoing sampling programs have been or will be implemented. Each one of these sampling programs has a different scope and purpose. Each sampling program will be required to have its own sampling plans and SOPs where applicable. Sampling programs will also be required to submit an Analysis Request Form (ARF). Additional response-related sampling programs may be developed as the need arises.

### **Dispersant-related Sampling Programs**

The SMART\* protocol is a sampling protocol utilized in conjunction with dispersant use. The protocol is implemented by a U.S. Coast Guard sampling team. Samples are collected from the dispersed oil area. NOAA determines what the samples will be analyzed for and utilizes the data to assess the effectiveness of dispersant. Samples will be sent to LSU for analysis. Alternate labs will be considered if there are capacity issues at LSU.

A sampling program will also be implemented to analyze potential effects that surface-applied dispersed oil may have on the environment. Samples will be collected at appropriate points in the water column, and sent to specialty labs where applicable. Labs include, but may not be limited to LSU and Battelle.

Platform-based or vessel-based air monitoring may also be performed to assess potential effects of dispersant application.

\* See SMART protocols for detailed information

### **In-situ Burn Monitoring and Sampling**

The SMART\* protocol is a sampling protocol utilized in conjunction with in-situ burn. The protocol is implemented by a U.S. Coast Guard sampling team. Samples are collected from the burn residue. NOAA determines what the samples will be analyzed for and utilizes the data to assess the effectiveness of burn. Samples will be sent to LSU for analysis. Alternate labs will be considered if there are capacity issues at LSU.

Air sampling and monitoring will also be performed during in-situ burns. Monitoring will be performed for Particulate Matter\*, Benzene and CO. Air sampling may also be conducted.

\* See SMART protocols for detailed information

### **Coastline Air Monitoring and Sampling**

A monitoring program has been implemented to assess potential air pollution associated with the release. Monitoring stations were selected throughout the Gulf Coast area (Louisiana to Florida). Monitoring is being performed by CTEH for VOC, LEL, H<sub>2</sub>S, Benzene and SO<sub>2</sub>. Samples may also be collected based on monitoring data results. Sampling analytes may include VOC & TIC, PAH and H<sub>2</sub>S.

### **Coastline Water Sampling**

A water sampling program has been implemented to assess potential water pollution associated with the release. Sampling locations were selected throughout the Gulf Coast area (Louisiana to Florida) based on water intakes, recreational uses and other public uses. Sampling is being performed by CTEH and analytes may include TPH, SVOA, VOA, Metals and Mercury.

### **Industrial Hygiene Employee Protection Air Monitoring**

Air monitoring is being conducted from some oil response vessels, and may be conducted from areas downwind of impacted shorelines where response personnel may be located. Monitoring is being performed for VOC, LEL, H<sub>2</sub>S, Benzene and CO. The majority of this monitoring is being performed by Total Safety. Additional badge monitoring is being performed by B. Veritas. Finally, discrete air sampling events may be performed as the need arises.

### **BP Platform Intake Sampling**

BP platforms in the spill area are conducting sampling of their water intakes to detect any presence of hydrocarbons. The purpose of the plan is to ensure that hydrocarbons are not entering the platform

intake systems. Samples will be analyzed for TPH (DRO and GRO) at Sherry labs. Additional testing will be conducted if the TPH shows the presence of hydrocarbons. Information from the sampling may be shared with other operators as appropriate.

### **Submerged Oil Monitoring**

To determine if there is oil present in the water column, a submerged oil monitoring program has been implemented. Snares were deployed along rope lines with crab pots, which were filled with additional snares and attached to anchors. These anchors were attached to small buoys and the top of the snare line was attached to the large buoys. These "snare sentinels" were deployed at 15 locations between South Pass and a few miles north of Pass a Loutre.

### **RAPID ASSESSMENT TEAMS**

Sampling teams called Rapid Assessment teams (RAT) have been implemented. These teams will be used to quickly respond after aerial reconnaissance identifies oil in near shore areas. The teams will deploy and obtain samples from the area. Samples will be brought to Operations, who will perform a visual inspection to determine if it is oil and may be skimmable. Samples will then be sent to SPL laboratory for testing. Testing will include at a minimum GC/FID 8015B (GRO & DRO). The visual and analytical data will be summarized for Unified Command on a daily basis, unless no samples are collected on a particular day. The RAT process flow is summarized in Attachment 2.

### **SPILL RESPONSE SAMPLING/MONITORING PROCESS**

To ensure data quality and proper data management, a process will be implemented for sampling and monitoring activities. A third-party organization has been brought in to perform QA oversight of sampling and monitoring. For this response, Environmental Standards is filling the role. The Environmental Standards team report to a Sampling Manager under the Environmental Unit. Attachment 3 summarizes the process flow and responsibilities of key personnel.

Each sampling program will be required to fill out an Analytical Request Form (Attachment 4). A Sharepoint site will be set up to manage all ARF's in one location. In addition, each sampling event is required to use a Chain of Custody form. A standard default COC has been created for the spill response operations (Attachment 5). Several sampling protocols will be developed and stored in the Sharepoint site. The Sharepoint site will also be the repository for data created prior to the implementation of the process.

The spill response has a Sample Handler/Expediter who will maintain detailed records of samples being collected, help coordinate sample transportation, and confirm delivery of samples to labs.

Analytical laboratories will be selected from the BP Gulf of Mexico Lab Program, or the BP LaMP program. SMART samples will preferentially be sent to LSU. Additional specialty labs may be selected based on specific needs of the individual sampling program.

Monitoring data and lab results will be warehoused in a web-based enterprise level data management system (EQS). Data will be sent directly from the lab to the system in EDD (Electronic Data Deliverable) format. The data will be both query-able from a single source and distributed as desired. Data obtained from EPA public health sampling and monitoring will be warehoused separately using a

SCRIBE system. SMART data will be complied and warehoused by NOAA, and shared with Unified Command. CTEH data will be converted and stored in EQS. Other data already created in a format not compatible with EQS will be stored in the Sharepoint site.

The Environmental Unit liaison is also going to provide information to the Sampling Specialists on upcoming samples from the ongoing sampling programs.

## **SAMPLING WASTE DISPOSAL**

Sampling waste will be handled by the accredited analytical labs in accordance with their Standard Operating Practices.

**ATTACHMENT 1**  
**MSDS Crude Oil**



## **ATTACHMENT 2**

### **Rapid Assessment Team (RAT) Sample Collection Procedure**

### **ATTACHMENT 3**

#### **Sampling/Monitoring Process for Spill Response Environmental Data**

**ATTACHMENT 4**  
**Analytical Request Form (ARF)**

## **ATTACHMENT 5**

### **Standard Default Chain of Custody Form**

**ATTACHMENT 6**

**Sharepoint Site and EQuis Data Management System**

Web addresses for the EQuis and Sharepoint sites are:

- Response Analytical Data Management System (EQuis): [www.envstd.net\mc252](http://www.envstd.net/mc252)
- SharePoint: <https://home.microsoftonline.com/login.aspx>

An individual user ID and password are required to access the sites. To gain access to the EQuis system and/or the Sharepoint site, contact the BP Sampling Program Manager (under the Planning/Environmental Unit) at Houma IC.